

REMARKS

The applicants thank the Examiner for the thorough examination of the application. No new matter is believed to be added to the application by this Response.

Status Of The Claims

Claims 1-17 are pending in the application. Support for claim 15 can be found in paragraph [0016] of the specification. Support for claim 16 can be found in paragraph [0014] of the specification. Support for claim 17 can be found in paragraph [0021] of the specification.

Election/Restriction

The Examiner has restricted the claims of the invention into the following groups:

- I. Claims 1-3 and 12, drawn to a siloxane resin.
- II. Claims 4-8 and 13, drawn to a method of forming a film.
- III. Claims 9-11 and 14, drawn to an interlayer film.

On May 4, 2005, group I (claims 1-3 and 12) were verbally elected during a telephonic interview with the Examiner. The Examiner now requires that the election be verified.

The applicants verify that group I is elected with traverse.

As set forth in Section 803 of the MPEP, the Examiner must examine an application on the merits if the examination of the entire application can be made without serious burden. Two criteria are identified for proper requirement for restriction:

1. The inventions must be independent or distinct as claimed; and
2. There must be a serious burden on the Examiner if the restriction is not required.

Applicants respectfully submit that a serious burden has not been placed on the Examiner to consider all of the claims in a single application. A review of the subject matter set forth in the claims would have an overlapping search. Thus a different field of search really does not exist with regard to the claims of the present application.

Also, all the claims of the present invention ultimately depend on claim 1 of group I. As a result, a finding of allowability of claim 1 would render all the claims of groups I, II and III allowable.

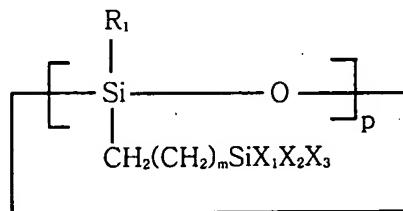
Accordingly, rejoinder and examination of all the claims on the merits is respectfully requested.

Rejection Under 35 U.S.C. §102(b) Over Mager

Claims 1, 2 and 12 are rejected under 35 U.S.C. §102(b) as being anticipated by Mager (U.S Patent 6,395,826). Claim 3 (pertaining to a resin molecular weight of 3,000-300,000) is free of this rejection. Applicants traverse.

The present invention pertains to a siloxane-based resin prepared by hydrolyzing and polycondensing a first monomer of Formula I with a germanium-containing monomer of formula 2:

Formula 1

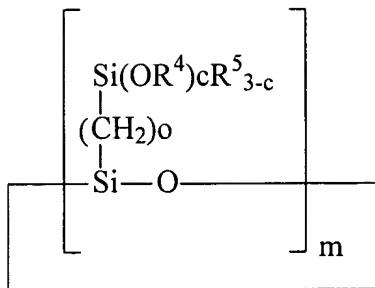


Formula 2



where R₂ is a hydrogen atom, a C₁₋₃ alkyl group, or a C₆₋₁₅ aryl group; X₄ is a C₁₋₁₀ alkoxy group, or a halogen atom; and a is an integer of 1-4.

In the Office Action, the Examiner points to formula (III) at column 2 of Mager:



and asserts that this is equivalent to Formula 1 of the present invention.

However, this compound must be reacted with a compound of Formula 2 to achieve the present invention's siloxane-based resin. The Examiner then asserts that Formula 2 of the present invention is equivalent to Formula (VIa) described in columns 3 and 4 of Mager:



where Q denotes Ga or In, z is 3 and R'' is optionally mono- or polysubstituted C₁-C₆ alkyl or C₆-C₁₂ aryl radical, and/or where Q is Si, Ge, Ti, Zr or Hf, z is 4, and R'' is optionally mono- or polysubstituted C₁-C₆ alkyl or C₆-C₁₂ aryl radical and/or alkoxides of the formula (R')_{4-y}Si(OR'')_y where R' is optionally mono- or polysubstituted and R'' is optionally mono- or polysubstituted C₁-C₆ alkyl or C₆-C₁₂ aryl radical (see also claim 7 of Mager).

That is, the alkoxide compound of Mager necessarily has four -OR'' groups, while the germanium containing monomer (Formula 2) of the present invention does not. Therefore, the material of Mager and the siloxane-based resin of the present invention do not have an identical structure.

Further, the chemical properties associated with the products of Mager and the present invention are dissimilar. The siloxane-based resins of the present invention have a low dielectric constant so that they are useful materials for an insulating film between interconnecting layers of a semiconductor device. On the other hand, the products of Mager can be used only as coating materials for improving resistance to mechanical wear. That is, Mager utterly fails to disclose a low dielectric constant for a siloxane based resin (cf. claim 12 of the present invention).

Mager therefore fails to disclose or suggest each and every element of claim 1. "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

Mager thus fails to anticipate claim 1 of the present invention. Claims depending upon claim 1 are patentable for at least the above reasons. This rejection is overcome and withdrawal thereof is respectfully requested.

Information Disclosure Statement

The Examiner is respectfully requested to consider the Information Disclosure Statement filed March 15, 2004 and to make the initialed PTO-1449 of record in the application in the next official action.

Foreign Priority

The Examiner is respectfully requested to acknowledge foreign priority in the next official action.

Conclusion

The Examiner's rejection is overcome. No issues remain. The Examiner is accordingly respectfully requested to place the application in condition for allowance and to issue a Notice of Allowability.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Robert E. Goozner, Ph.D. (Reg. No. 42,593) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

Application No. 10/734,179
Amendment dated August 18, 2005
Reply to Office Action of May 19, 2005

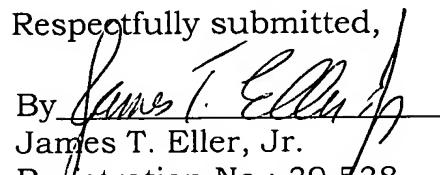
Docket No.: 3811-0134P

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

Dated: August 18, 2005



Respectfully submitted,

By 
James T. Eller, Jr.

Registration No.: 39,538
BIRCH, STEWART, KOLASCH & BIRCH, LLP
8110 Gatehouse Rd
Suite 100 East
P.O. Box 747
Falls Church, Virginia 22040-0747
(703) 205-8000
Attorneys for Applicant